



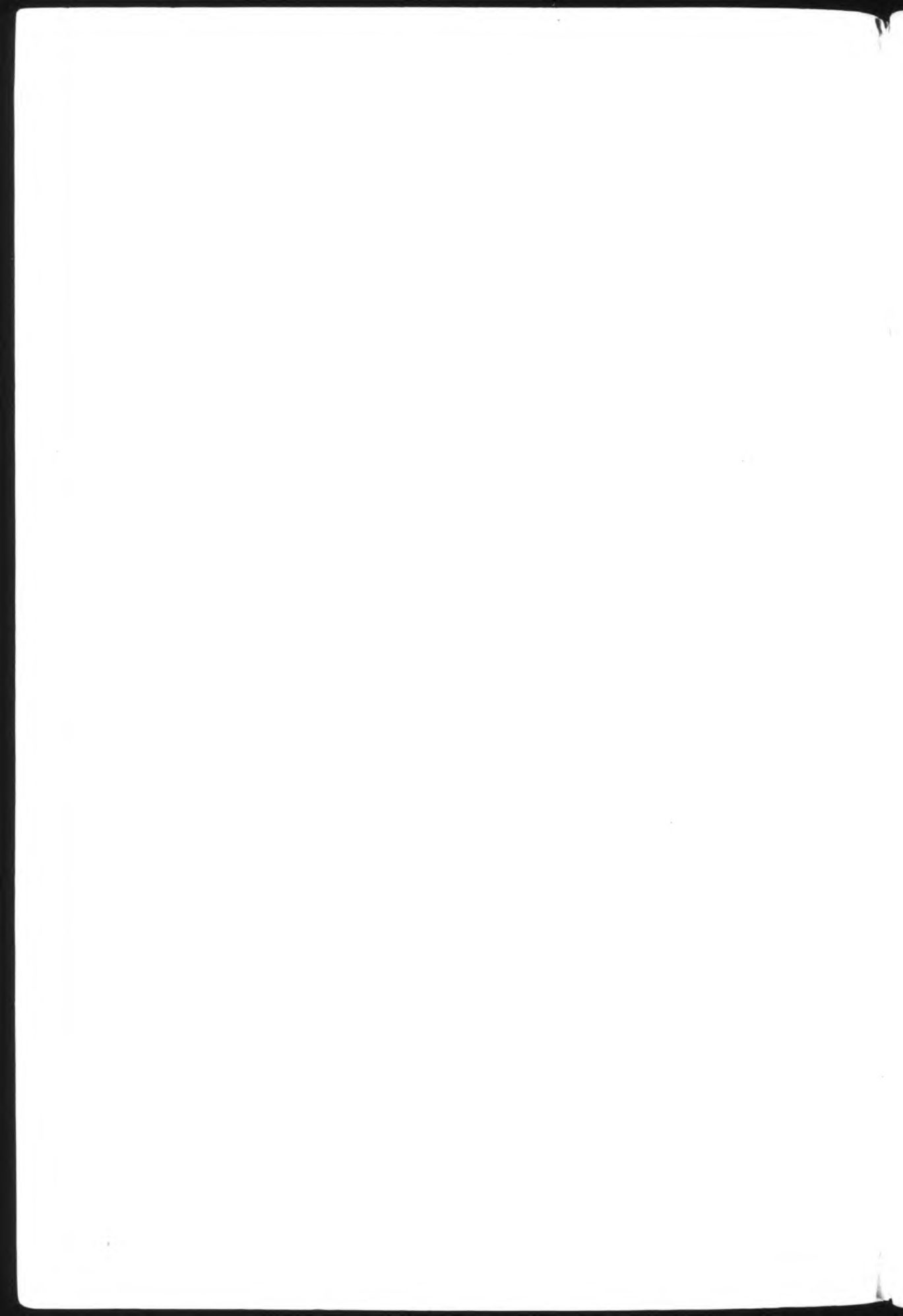
BIENNIAL REPORT *of the*
Department of GAME and
FRESH WATER FISH
FLORIDA

For the Period Ending June 30, 1930

C. C. WOODWARD, STATE GAME COMMISSIONER
TALLAHASSEE, FLORIDA

F354.3s
G192
1930

FLORIDA STATE LIBRARY



BIENNIAL REPORT *of the*
Department of GAME *and*
FRESH WATER FISH
FLORIDA



For the Period Ending June 30th, 1930



C. C. WOODWARD
State Game Commissioner
TALLAHASSEE, FLORIDA

INDEX

	<i>Page</i>
CONSERVATION	
A Worthy Objective	5
Value of Fisheries	5
Value of Game Birds and Animals	5
Value of Birds as Crop Defenders	6
A Magnet for Visitors	6
Fur Industry	6
Monetary Worth of Wild Life	6
An Agency for Recreation	7
Is Preservation Worthwhile?	7
Florida Possibilities	8
Conservation Defined	8
Methods	8
ORGANIZATION OF WORK	
Office Force	9
Field Force	10
WILD-LIFE SUPPLY	
The Game Bird Supply	10
Squirrels	10
Deer	11
Fur-Bearers	12
GAME PROPAGATION	
Breeding Grounds—Parks—Preserves	13
Breeding Grounds, Refuges	13
Highlands Hammock Park	14
Kelly Park Preserve	14
Ocala National Game Preserve	15
Federal Government Establishes Preserves	16
Make Closing 20,000 Acres Mandatory	17
Proposed National Everglades Park	17
Florida's Game Farm	19
Sportsmen Try Pheasants	22
FLORIDA'S FRESH-WATER FISH SUPPLY	
Destruction of Predatory Fish	23
Another Plan	24
Winter Haven Hatchery	24
Requests for Fingerling	25
Small-Mouth and Rock Bass	25
Sale of Black Bass	26
EDUCATIONAL PROGRAM	
Monthly Bulletins	27
Quarterly Magazine	27
Coming Publications	28
Exhibits	28
Moving Pictures	29
Supervision of Educational Program	29
LAW ENFORCEMENT	
Court Cases	30
Co-operation	30
EXCERPT FROM REPORT OF CONGRESSIONAL COMMITTEE	
Wild-Life Resources of America	31
LEGISLATIVE RECOMMENDATIONS	
	33
CONCLUSION	
	34
FINANCIAL STATEMENT	
Receipts for Biennium	36
Expenditures for Biennium	35

Tallahassee, Florida,
December 31, 1930.

To His Excellency,
Doyle E. Carlton,
Governor of Florida.

Sir:

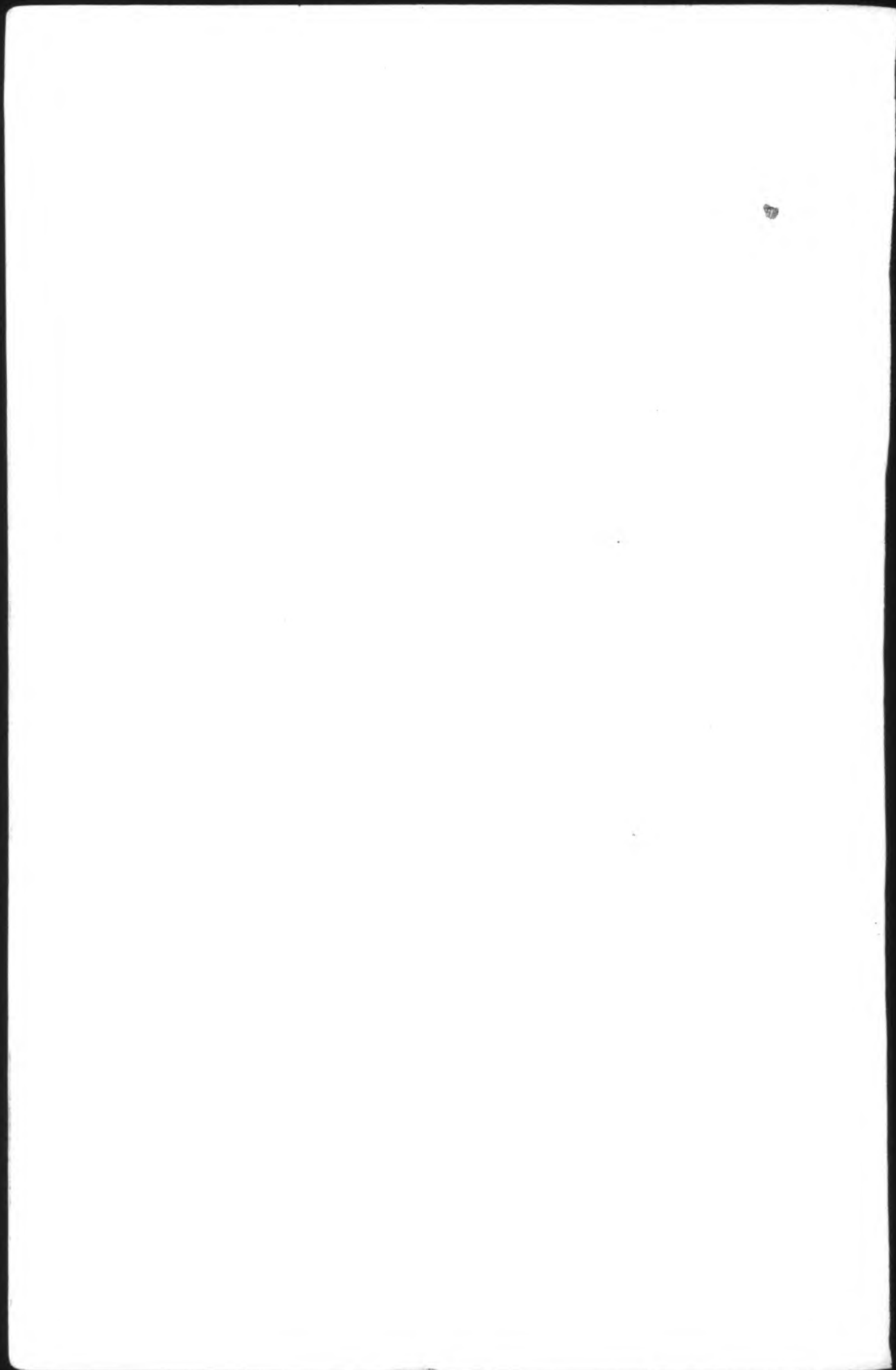
Under authorization of the Laws of Florida, Chapter 13644, Section 8, Acts of 1929, I have the honor of submitting to you, herewith, the Third Biennial Report of the Department of Game and Fresh-Water Fish, State of Florida.

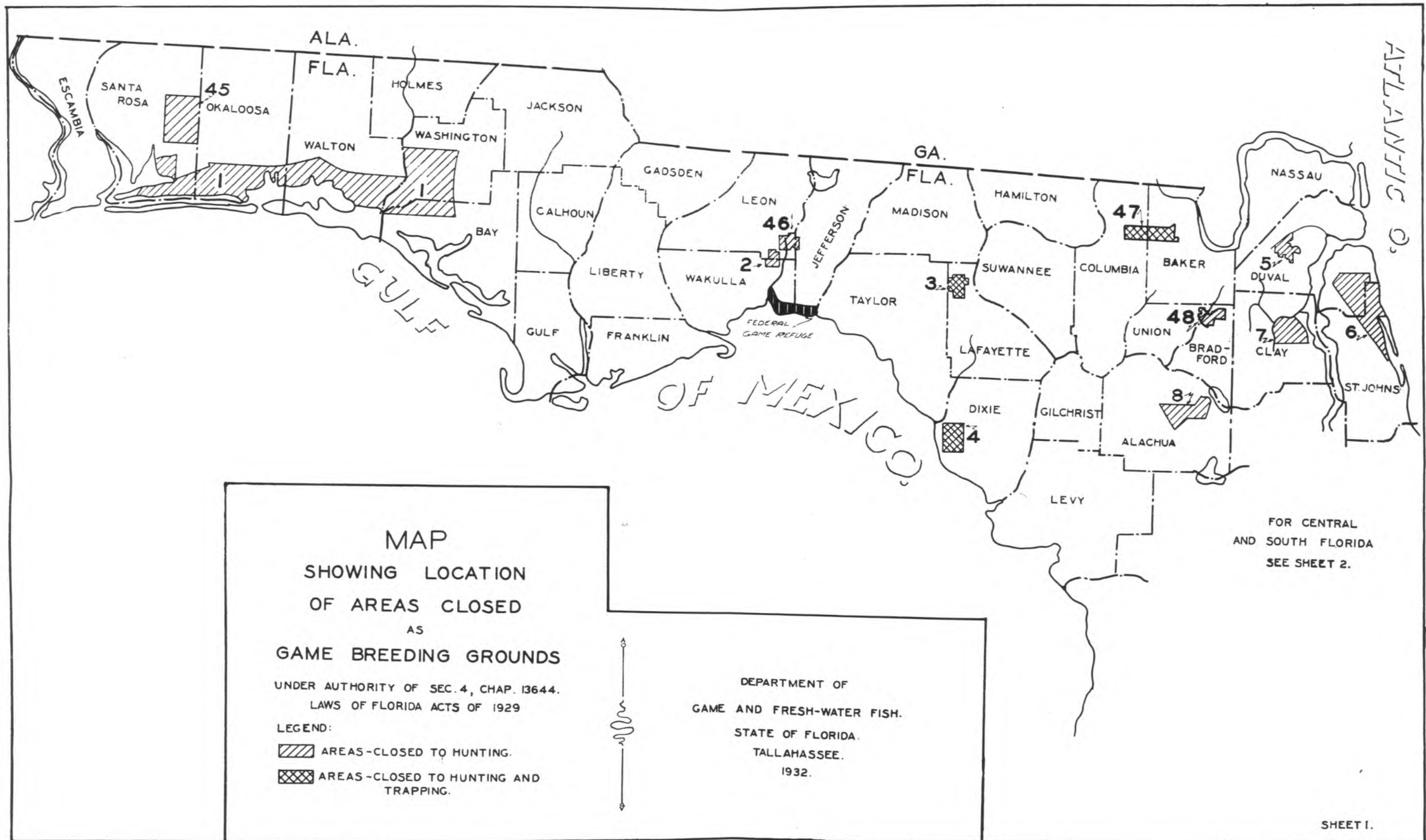
The statistical report submitted covers the biennium closing June 30, 1930; the narrative carries the story of the two-year period closing December 31, 1930.

The activities of the Department from July 1, 1928, until February 25, 1929, were directed by the former State Game Commissioner; the activities of the Department from February 25, 1929, through the remainder of the period were directed by the present State Game Commissioner.

Respectfully submitted,

C. C. WOODWARD,
State Game Commissioner.





Two Years in the Conservation of the Native Wild Life of Florida



DEAD LAKES IN WEST FLORIDA

A Worthy Objective

HUMAN activity should have as its object those things that are helpful to the individual and of benefit to the race. In view of this fact, before considering the activities of the State Department of Game and Fresh-Water Fish, one might ask, Are its activities worthwhile?

Is the saving of our great outdoors worthwhile?

Birds, animals and fish are the very embodiment of the spirit of out-

doors, the sparkle of conscious life. Lost, one of the greatest attractions of the realm of outdoors would be gone. Furthermore, their conservation is of direct profit to the individual and to the State. Since earliest times they have served as income-producers and income-savers; furnishing products for the market, and food for the home table of the man who hunts and fishes. They pay a levy to the State and build the fortunes of individuals. Their worth varies directly with their abundance.

Value of Florida Fisheries

Florida's fisheries produce, through commercial channels, an annual revenue of many millions of dollars. To this must be added a considerable sum as an estimate of the value of the food consumed on the home table. No one other food product which Florida affords has served as has fish to cut the cost of living. To be had in every section of the State for the taking, and purchasable in the market for a price that is far below that of meats—for which fish may be substituted without loss either from the standpoint of the diet or of goodness—fish furnishes a ready substitute for the more expensive meats.

Value of Game Birds and Animals

As food, game birds and animals are a delicacy, and yet the numbers in which they are taken and served on the Florida table give them a monetary value not to be overlooked. Unlike many other delicacies, they

are not confined to the tables of the rich.

In many instances, property owners in Florida not only pay their taxes on their lands, but receive considerable income from the leasing of the shooting privileges over these lands.

Value of Birds as Crop Defenders

To agriculture, a basic industry of the State, the birds that feed upon weed seeds and insects render a service of incalculable value. Established records, had from that last court of appeal—the examination of the contents of the stomachs of birds, an estimated 70,000 having been used for the purpose—lead Federal authorities to state that birds, through their destruction of harmful insects, reduce the losses to agriculture in America by twenty-five per cent. Since these authorities place the annual losses at from \$1,000,000,000 to \$2,000,000,000, it will be seen that the annual value of the service of birds as crop defenders in America must approximate \$500,000,000. In Florida, where the mild climate is conducive not only to the production of many kinds of crops but of many species of insects as well, the service of the birds is valuable indeed. It must amount each year to several millions of dollars.

A Magnet for Visitors

The drawing power of Florida's wild-life, found in the setting which the State offers, and under those climatic conditions which make it a delight to go into the woods each day in the year, can hardly be overestimated.

Astute real estate dealers, recognizing its value, have in some instances made special provision on

their properties for attracting and protecting bird life, and, where the acreage warrants it, some are propagating and protecting several species of game.

Fur Industry

Pelts taken from Florida furbearers produce an annual income that varies with the market price on furs from one million to two million dollars.

Monetary Worth of Wild-Life

The combination of climate, setting and wild-life, which produces our great outdoors, has been estimated by Roger Babson, nationally known statistician, to bring to the State annually a revenue that is five times as great as that derived from the citrus crop.

In a State where the tourist business reaches the proportions that it does in Florida, sport fishing assumes an importance as an attraction to those of other States, that in this nation of outdoor lovers is very great. This democratic sport draws rich and poor, high and low, the seasoned angler and the novice to its common meeting ground about lake, stream or on ocean or gulf shores. The books of hotels that entertain the thousands of visitors that it annually brings, of boat owners, guides, dealers in sporting goods, gasoline stations, garages, places of amusement, grocery stores, growers of vegetables and fruits, in fact, the trade that profits on every hand from this tourist business, alone can show the monetary worth of sport fishing to Florida. Though with not as many devotees, hunting brings to the State each year thousands of highly desirable visitors.

An Agency for Recreation

The monetary worth of Florida's wild-life is but one of its many values. In this day, when our highly organized industrial system has so shortened hours of labor and multiplied hours of leisure, the profitable employment of leisure time becomes a problem to be faced both by individuals and the State. Where can

unmarred by careless or vicious hands, bring an appreciation of things that are real, and a contentment with those simpler, finer things of life that tend to lift the whole to a higher plane.

Is Preservation Worthwhile?

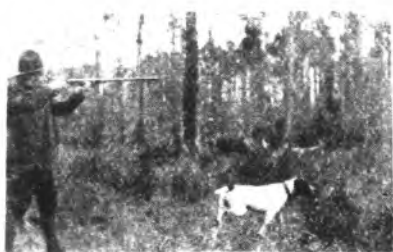
Is the preservation of such a resource worthwhile?



ON THE WACISSA RIVER

more wholesome recreation be found than that to be had in the great outdoors? No other material agency offers those in need of re-creation of physical and spiritual values what may be found there. As a preventive of moral and physical ills, this life in the open is without a peer. Contacts in the wide spaces with things

That section which can boast of but little that makes for such a life in the open—regardless of what its industrial development may be—is poor; that section which has such and fails to conserve it, is unwise; while that section which has and conserves it is both rich and wise.



Conservation

Protection

Restoration

Wise Utilization

Possibilities

Florida has the environment, the climate, the seedstock, in fact, has everything—except the complete understanding of its value and a positive determination to conserve it—to develop the wild-life of the State in amazing abundance; and it is doubtful if any other value as great could be created at so low a cost. The benefits of such a development would be so broad as to affect beneficially every civic, social, moral and commercial interest in the State.

Objective

This is the objective which the Department holds in view, the goal for which it strives.

Utopian though it may seem, it is within reach. It will become a reality when the masses demand it.

Conservation

Conservation, as that term is applied to the saving of wild-life in this and other States, had its birth in the reaction that followed an awakening to the fact that birds, fish and animals were steadily diminishing in numbers. In its incipency it sought but to save them from destruction. With but limited knowledge of the many values of wild-life, the appeal for its preservation was based largely on idealism. Today that appeal is re-enforced by that of practicability; and policies include plans,

not only for protection and restoration, but for wise utilization.

Though this wider conception of conservation is fast coming to be universally accepted, if it is to be as universally practiced, it must become an intimate part of the convictions of the individual citizen.

Methods

To this end knowledge of the life of woods and waters must be enlarged; this knowledge must reach the public; scientific methods for protecting and propagating wild life under changed conditions of today, brought about by the cutting away of forests, the opening up of natural refuges, the destruction of vast breeding grounds by drainage, must be discovered and employed; regulation of methods for taking game, consistent with its conservation, must be secured.

Adequate legislation, supported by education, must lay the foundation for such conservation. To secure respect for and obedience to law a sufficient number of law enforcement officers to provide for general coverage in the State, and intensive work where needed, and strong co-operation from the courts and county officials must be had.

Organization of Work

Without exception States have developed their conservation work through these three well defined channels—education, protection and propagation. Where best results are being obtained these three branches of the work are each well developed. The State Game law, enacted by the Legislature in 1929, and which contemplated the reorganization of the Department, provides for the three.

Office Force

Under this law an office force consisting of an Assistant State Commissioner, a Secretary to the Commissioner, a bookkeeper, a stenographer and a clerk, has been maintained. This force has rendered efficient service.

Field Force

Following the mandate for reorganization, the State was districted, and a District Game Commissioner for and from each of the four districts, which correspond with the Congressional Districts of the State, was appointed. These men, under the State Commissioner, have direct supervision of the work in their respective districts. I. N. Kennedy was appointed District Commissioner for the First; H. C. Harper for the Second; J. T. Hurst for the Third; J. W. Black for the Fourth.

As early as funds were available a force of forty men, as provided by law, were appointed as deputies, and assigned to the several districts. These men are a picked group, keen and efficient. Though the force is not adequate in numbers, district commissioners and deputies have rendered a tireless, loyal service, which has resulted in a growing respect for the law and a deepening interest in conservation throughout the State.

Prior to the 1930 nesting season for quail, a limited number of men

were employed to trap birds in a few of the breeding grounds and remove them to the open territory in those counties in which they were trapped.

State exhibits at fairs have been planned and supervised by the clerk employed in the office, and a field assistant employed for the duration of the fairs. District commissioners and deputies have rendered every assistance possible with this work as the exhibit was brought to their respective fields.

Supervision

Directing the work of office and field, the State Game Commissioner has divided his time between the two. In addition to the usual administrative duties discharged since entering upon the office, March 1, 1929, he has visited every section of the State, and those points where the need was most pressing, many

An additional force has been maintained throughout the biennium at the Winter Haven Fish Hatchery.



FISHING IN THE EVERGLADES CANALS

times over. Invitations to meet civic groups and present the needs of the work have been accepted whenever it was possible to do so. Numerous conferences looking to the promotion of the work have been held with interested, active citizens and organizations. Every effort has been made to keep the avenue between the field and office open and contacts between the two close. A cordial relationship has been maintained between the State and that branch of the Federal government charged with the

protection of migratory birds. Assistance has been both given and received by these two agencies. Cordial relationships have been established with the Conservation Departments of other States with a view to becoming better acquainted with those methods of work under which best results in their respective areas are being obtained, while active co-operative relationship has been maintained between the Department and other branches of government in Florida.

Wild-Life Supply

A check-up on progress made during the biennium shows much accomplished and yet much to be done; some outstanding results and some disappointing failures.

The Game Bird Supply

The hunting season of 1929-30 showed in most sections of the State an increase in the number of game birds to be found in Florida, especially of quail and turkeys, with doves holding their own and ducks not so plentiful. The hunting season of 1930-31 does not seem so propitious. There is an apparent reduction to a considerable extent in Florida's chief native species of game birds—quail and turkeys. This is recognized in most sections of the State and is a matter of real concern.

The increase in game birds for the first year of the biennium may be attributed to several factors, primarily, to good breeding seasons that gave the increasing breeding stock opportunity to replenish the hunting areas.

Several reasons for the apparent shortage during the present season in the two species of birds named, have been offered. Forest fires are a continual menace to the supply. They take a steady toll. The heavy rainfall at nesting season, which flooded a wide area in South Florida

destroying nests and young birds, and depleting seed stock; and the fact that many coveys of quail were overshot in the previous season, are two reasons for the shortage frequently given.

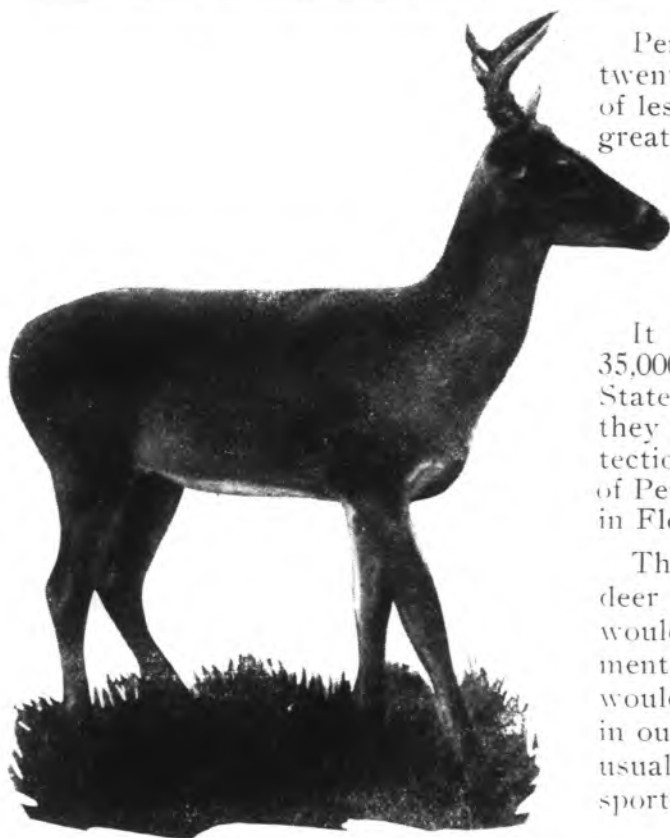
Florida's supply of game birds is too valuable an asset to the State to be jeopardized. It matters not what has brought about the present shortage over wide areas of the State, the fact that such exists is the matter of concern.

The general decrease in ducks in the country has, with the exception of the two species breeding in the State—the Wood Duck and the Dusky or Florida Black Duck—been reflected in Florida's supply. The Wood Duck, which has enjoyed a decade of protection, has re-established itself in considerable numbers. Other game birds are holding their own.

Non-game birds show a marked increase over the entire State. Some species that it was once feared would become extinct, notably the egrets, are not infrequently seen. This is gratifying.

Squirrels

Fox squirrels, under the protection provided by a closed season, are on the increase. Cat squirrels are numerous in most parts of the State.



A COLLIER COUNTY BUCK

Deer

There seems to be a general increase of deer in the State. No one species of game has profited more from the establishment of breeding grounds in the State than have deer.

The repeal of the law providing an open season in August, and the added protection given doe deer have been large factors in securing the general increase.

Florida's season for hunting deer opens on November 20 and closes on December 31st. The open season of forty-one days in this State is long as compared with the season fixed by the majority of States. In Colorado there is an open season of but four days, and a bag limit of one. Pennsylvania, which has a herd in the forest that is estimated to number from three-quarters of a million to a million deer, has a season of ten days and a bag limit of one.

Pennsylvania, starting some twenty-three years ago with a herd of less than a hundred has built this great herd by observing short seasons, limited bags, special protection of does and the establishing of State-owned breeding grounds and refuges.

It is estimated that Florida has 35,000 deer in the woodlands of the State. With the vast area in which they may breed, given proper protection, a herd that would rival that of Pennsylvania might easily be built in Florida during the next ten years.

The prohibiting of the hunting of deer in Florida woods with dogs would greatly facilitate the development of such a herd. Not many years would elapse before the sight of deer in our vast forests would not be unusual—a sight that would thrill both sportsmen and casual travelers.





A JEFFERSON COUNTY TRAPPER

Fur-Bearers

Florida's fur-bearing animals, due to the high prices offered for pelts during the past few years, have been trapped too closely in the majority of the counties. There is a noticeable depreciation in their numbers. These animals furnish a source of income to many of limited means, while the economic worth of their pelts gives rise to an industry that brings to the State, under normal conditions, an annual income of more than a million dollars. This asset should be properly guarded.

The following from one of the leaders in the industry in Florida merits consideration:

"There is no question about this industry with its earnings of nearly



CAUGHT WITH DOGS WEST OF JUPITER

a million and a quarter a year being of State-wide importance, the only question is what we can and should do, not only to keep it from declining in value, as it has been doing, but to conserve and protect it so that it will bring increased revenues in years to come. Other States have seen and solved this same problem and so can we.

"The first and important step in this problem is education. The people affected must be educated to the fact that sensible and enforceable conservation laws will **not** curtail their earning power, but will, in fact, gradually increase it. The greatest menace to our entire wild-life today is the deadly forest fire during the dry seasons when the young wild-life is unable to save itself. These fires destroy nearly as much wild-life each year as the hunters and trappers, and is a source of terrific loss to the fur industry. These fires will, ultimately, practically destroy this industry unless stopped. Our people need to know this. They must then convince their members of the Legislature that this industry cannot be handled on local lines or as a local issue, but must be administered under one general, State-wide law, passed after serious study of the needs of the industry."

Breeding Grounds—Parks—Preserves

Breeding Grounds and Refuges

Breeding grounds and refuges have furnished in other States the most effectual means for the re-establishment of wild-life. Under the Florida Plan, which provides for the

gift, purchase, or, should it be so provided, by the setting aside of some State-owned lands adapted to the purpose. Those who see a loss in public revenue should such lands be retired from the tax lists would



COUNTY COMMISSIONER F. J. ZIEGLER, SARASOTA COUNTY
WITH A COVEY FROM THE HUNDRED BOBWHITES THAT FEED IN HIS YARD

closing of selected areas by mandate, approximately 3,000,000 acres have been closed to hunting during the past five years. Protection of these areas has not been complete, and yet good results have followed their establishment. Aside from the natural overflow of wild life to adjoining lands, the surplus may be trapped and transferred. In Sarasota County in April, 1930, one deputy in thirty days trapped and transferred to open territory 1,800 quail. The publicly owned preserve, however, possesses many advantages over the mere closing of an area. It is a goal to be kept ever in view. It may be attained by

find, on examination, that in most instances these lands are not now on the tax books. The increase in values, in attractiveness, to those sections where permanent breeding grounds are established, might well be considered in the nature of an offset for any possible loss that would come from their retirement.

There are a number of large privately owned preserves in Florida that serve, even when hunted by their owners, to build up wild life in the surrounding country. Their hunting, in view of the State bag limits, is far less than it would be were the land thrown open to public

shooting. Such a system has done much to maintain the supply of wild life in some of the northern counties in the State, notably in Madison, Jefferson, Leon. The McCrory Preserve in Orange and Osceola Counties, embracing 105,000 acres, is another illustration. This preserve, seldom hunted even by its owners, maintains the supply of the section. Hidden Lake Game Preserve, in Pasco County, will restock that section.

as a memorial to her. The area, comprising 5,000 acres, embraces in its center 2,000 acres of rich hammock land. Highlands Hammock Park, as it is known, though but recently established, has been made accessible through good roads to visitors. Other improvements are planned.

Kelly Park Preserve

Another permanent park preserve, not so large as this, but established



WILD TURKEYS. KELLY PARK PRESERVE, ORANGE COUNTY

Highlands Hammock Park

Highlands County—and through this source, the State—has recently profited from the establishment by gift, of a permanent refuge within its bounds. The project, undertaken by Mrs. John A. Roebling, a visitor who had seen the natural beauty of the Hammock, and who appreciated its value as a home for wild-life, and knew of the rare botanical specimens to be found in its depths, was completed after her death by her husband

prior to it by a few years, is that in Orange County—Kelly Park Preserve. This park, consisting of 362 acres, not only affords an admirable game refuge, but possesses many natural attractions. Dr. Howard Kelly, of Baltimore, for whom it is named, gave 202 acres of the park to the county on condition that the county employ at all times a warden to protect it. This has been done.

The park adjoins one of the State breeding grounds. Three years ago the keeper, noticing a few wild turkeys feeding at the edge of the swamp in the grounds, started feeding them. In two years' time the flock had increased to more than 200 birds and the county was furnishing approximately ten sacks of grain a month to feed the flock.

The Florida wild turkey affords one of the few unmixed strains of bronze to be found in America today. What has been done in Kelly Park Preserve in building up a flock of these choice birds, might, without a doubt, be done elsewhere in the State.

Ocala National Game Preserve

The area in the State best stocked with deer in the Big Scrub lying largely in Marion County. A part of this natural breeding ground, located in the Ocala National Forest, was closed in 1927. The co-operation of the foresters gave better protection than had been previously afforded, but not what it was deemed desirable. In 1929, by legislative act, 60,000 acres of these lands were offered to the Federal government as a National Game Preserve. The bill providing for this was introduced by Representative W. D. Carn, of Marion County. The bill authorizing its acceptance was introduced in Congress by Florida's senior senator, Honorable Duncan U. Fletcher.

The creation of this large sanctuary, in the heart of one of the best game sections in Florida, is a large contribution to conservation in this State. Under the presidential proclamation issued July 24th, 1930, creating the refuge, warning is given to all persons not to hunt, catch, trap, wilfully disturb, or kill any kind of game animal or game bird within the area and to any who would molest or kill any bird or wild

animals, or take birds' eggs in these grounds.

For its protection the following regulations have been promulgated:

"Reg. T-8. The following acts are prohibited upon any national forest lands embraced within the boundaries of a national game or bird refuge, preserve, sanctuary or reservation, established by or under authority of an act of Congress:

"(A) Hunting, trapping, catching, disturbing or killing any kind of game or non-game animal, or game or non-game bird, or taking the eggs of any such bird, except when authorized by permit issued by, or under authority of, the forester.

"(B) Carrying or having possession of firearms, without the written permission of the forest supervisor or such other officer as he may designate.

"(C) Permitting dogs to run at large, or having in possession dogs not in leash or confined.

"(D) Camping without permit issued by a forest officer, except on areas designated as public camp grounds, or other areas which may be specifically accepted by the regional forester."

The importance of regulation T-8, Supervisor Hadley in charge, explained, lies in the prohibition of guns and dogs in the game refuge, and the taking of non-game animals. This will absolutely remove the old excuse of hog hunting by means of which many game poachers had dodged the State game laws in the past. Supervisor Hadley asserted that in regard to dogs, the forest service does not wish to take drastic measures to keep them out of the game refuge if such action can be avoided through the co-operation of the hunters. Dogs running at large through national game refuges are



MIGRATORY BIRDS ON GULF COAST

usually shot, but this will not be the practice on the Ocala national game refuge if hunters show a real effort to keep their dogs out of the refuge. Game wardens have been instructed to catch all dogs found in the game refuge and impound them at the Lake Bryant ranger station, where owners may recover them by repaying the forest service for the cost of impounding. Owners of dogs found on the refuge a second time will be prosecuted under Federal regulation T-8 quoted above.

All the Federal forest officers also hold commissions as honorary State game wardens, and are prepared to enforce the State game laws on lands not included in the national game refuge.

In connection with the use of the Ocala Forest for hunting during the

coming hunting season, Supervisor Hadley stated that he wished to call to the attention of all sportsmen the fact that under regulation T-1 (E), written camp fire permits must be obtained from a forest officer before building a camp fire anywhere in the national forest, no matter how small the fire or how temporary the camp. These permits are issued free, and may be had upon application to any forest officer.

Federal Government Establishes Preserves

The Federal government, on its own initiative, during the biennium, has established two other preserves in Florida, the one on the East Coast, an island where the brown pelican breeds; the other acquired by purchase, in Wakulla and Jefferson counties. This latter is comprised of

13,000 acres lying along the Gulf Coast. It embraces some of the best game country in the section. It was purchased because of its value as a resort for migratory waterfowl. It includes approximately one-seventh of the famous Wakulla feeding grounds for wild geese. The purchase, which was authorized December 19, 1930, was in accord with the Migratory Bird Conservation Act, signed by the President February 18, 1929, and made effective July 1, 1929.

By this plan it is expected that there will be one or more refuges in each State and these will be selected at places best serving the purposes contemplated under the Act. They will, in order to be most effective, embrace not only breeding grounds of the birds, but areas offering them unmolested feeding and resting places.

The migratory bird refuge program has received the unanimous endorsement of all sportsmen's organizations throughout the United States. It was by reason of these endorsements and the overwhelming sentiment of other conservationists, that Congress authorized the establishment of such refuges and passed the Act necessary to the consummation of this program.

The establishment of the Wakulla Preserve will mean much in the preservation not only of migratory birds, but other species of game for which the section is noted.

Make Closing of 20,000 Acres in Each County Mandatory

Since the acquiring of title to permanent breeding grounds either by

setting aside State lands for this purpose, purchase or by gift, is a slow and uncertain process, the safe thing for Florida to do is to pass a law making it mandatory that 20,000 acres be closed in each county to all shooting. This area closed and protected in each county would provide a game nucleus for each that would go far toward insuring the preservation of game in some abundance throughout the State.

Proposed as the most feasible plan under existing conditions, the plan, has advantages that would tend to make it a permanent feature of the conservation program of the state. Among these is, that, despite the fact that funds are not available for the purchase or lease of areas for preserves, every section of the state has a chance, and an equal chance, to secure a breeding ground.

Everglades Tropic Park

The National Everglades Tropic Park, a project that would create a National park in the extreme Southern part of Florida and which has received the endorsement of authorities at Washington could add to the national park system, its first tropical park.

In speaking of it the National Geographic Magazine, John le Gorce says:

"In this amazing region there now exists a plant life of wild and superbly beautiful palms, orchids, bromeliads, and fascinating climbing lianas, but, like the bird and animal life, these colorful glades and hammocks are threatened with destruction from fires, often left by careless hunters and others, unless the protecting hand of the Government is raised in time to save them.

"Set apart, preserved, and made accessible as the Everglades National Park, this area would be visited in time by millions—millions eager for subtropical adventure, but adventure under American skies, amid American customs, and the comforts and excellent direction extended to all by the governmental supervision of the National Park Service of the Department of the Interior. The leading citizens of Florida and many residents of the states are urging

interesting wild life, and we saw not less than forty thousand egrets, ibises, herons and other water-birds. In great flocks we watched them arise from their nesting places and sweep across the glades and jungles. Deer and wild turkeys are common sights.

Here is the only place where the crocodile is found in the United States."

The proposed park lies on both sides of the Tamiami Trail, extend-



EAST CAPE SABLE BEACH, EAST CAPE SABLE IN THE DISTANCE

this important and needed project, which, of course, is for all the people of the Nation."

Dr. T. Gilbert Pearson says: "It is the one distinctive tropical area in the United States. Here are found sixteen species of native palms, the great gumbo-limbo tree, the peculiar strangling fig tree, and the mangrove, which here grows into giant forests 80 feet high. It teems with

ing from the Gulf Coast about half way across the state and southward including the Royal Palm State Park, the Cape Sable region, the Ten Thousand Island region, and the coast line and many islands of the Bay of Florida.

Bills for its establishment were favorably reported by both House and Senate Committees in the last Session of Congress.



THE COURT JESTER



WAIFS



A PENNSYLVANIA BUCK

Game Propagation—Florida's Game Farm

FOR nearly a year the story of Florida's game farm has been in the making. The story has been permitted to unfold itself through the passing months of the year just closed before an attempt was made to transcribe it. Today, with but its first chapter completed, the story is one of both endeavor and accomplishment. Florida's game farm, established at Raiford, is a co-operative undertaking of the State Department of Game and Fresh-Water Fish and the State Prison Farm. It has had whole-hearted support from both Departments.

It seemed a small beginning when, in February, 1930, the first unit of thirty-five individual laying pens for quail were built at the farm, and as many pairs of these birds placed in them for breeding stock. From these pens, however, there were gathered for incubation 1,018 eggs, from which 786 chicks were hatched, and 662 birds were brought to maturity. The birds selected for the foundation stock at the farm were of the type found in North Florida, larger and darker than those of

South Florida and running in weight a little above the average Mexican bobwhite. Eighteen pairs were of hand-raised stock, the remainder, with the exception of a few pairs of Mexicans that were used, were taken from the wild. The record quail hen of the farm, "Miss Florida," laid 114 eggs during the season.

Eggs were gathered each Monday and placed in some of the many trays of a Buckeye No. 8 chicken egg incubator in use at the State Farm for hatching domestic poultry, a machine with a six thousand chicken egg capacity. Limited space in this machine was assigned for quail, pheasant and wild turkey eggs, trays for holding the eggs being located in those sections of the machine where the desired temperature for the hatching of the respective species of eggs could be obtained. This plan of hatching the eggs of several species of birds in one incubator at one time—an innovation—proved successful.

To adapt the trays for chicken eggs to quail and pheasant eggs, Mr. T. W. Shuler, manager of the

poultry plant at the State Farm, ingeniously provided wire troughs made of quarter-inch mesh welded wire and so shaped as to hold the eggs securely and in the right position. This arrangement, he reports, enabled him to give the necessary turning every twelve hours during the period of incubation without touching them. This he accomplished by merely changing to the desired angle the racks that held the trays. He strongly recommends the plan where chicken egg incubators must be used for hatching quail or pheasant eggs.

When dry, the young birds were taken from the incubator and placed in electric brooders of Mr. Shuler's own designing. These brooders, eighteen inches by thirty-six, have attached wire-bottom runs eighteen inches by six feet. Each brooder takes care of fifteen quail chicks.

When placed in the brooders, the baby quail are immediately fed on chick starting mash, chick grain, clabber, grit, charcoal, oyster-shell and green feed, such as lettuce or chopped crimson clover. At the end of four or five weeks they were transferred to the growing pens, wire-covered runs, ten feet by thirty, and the mash in the diet was changed to growing mash, with whole wheat, kaffir corn, millet seed and peas added. In the growing pens the

birds for the first time found their feet on the ground and an opportunity to try their growing winds, which soon provided the "whir-r-r-r" with the rise of the "covey" so pleasing to every sportsman's ear.

Eighty pairs of large, hand-raised, native quail are now in the wintering pens to be held as breeding stock for the coming season; among them, "Miss Florida" of the high laying record.

In one of the runs a covey of imported Hungarian partridges have been placed—birds that double in size our bobwhite quail. The story of these wild Huns, however—and wild they are—will be written after the next breeding season, if written at all.

Other of the runs were used for breeding pens for ring-neck pheasants. Ten of the fifteen birds used were raised in Hillsborough County during the previous season. The others were brought from out of State. The number of eggs laid and the per cent. hatch was surprisingly good; but the number of birds brought to maturity was not as great as was expected. It is believed that with a better understanding of the dietary needs of this bird, results next season will be greater. The brilliant plumage of the cocks and blended browns of the hens (a fine

T. W. SHULER, MANAGER OF POULTRY AND GAME FARMS, AT STATE FARM, RAIFORD, WITH PART OF THE 662 QUAIL RAISED DURING SEASON, MUST BE ACCREDITED, IN THE MAIN, WITH SUCCESS OF GAME PROJECT



example of the protective plumage which nature provides ground-nesting birds) make them an attraction on any farm, while their quality as game birds warrants a continued effort to establish them in Florida.

Florida affords one of the few areas in America where the unmixed strain of wild bronze turkeys are to be found. With a few of these and some imported stock sufficient to bring the flock up to twelve, the propagation of wild turkeys was undertaken. The flock was released in a woodland run of forty acres enclosed by a fourteen-foot fence. Sixty turkeys were raised during the season. It is planned during the coming season to establish an unmixed flock of Florida wild bronze at the farm. To this end, birds from one of the State breeding grounds have been selected and will be transferred to the farm.

A herd of nineteen deer share the woodland run with the turkeys. Five of these are white-tails from Pennsylvania, the remainder are native stock. The deer from Pennsylvania are larger than are the native deer. Most of the Florida deer are yearlings or younger, and were taken from people who had picked them up as fawns, contrary to law, being found in some secluded spot where they had been left by the doe while she browsed nearby. In some in-



stances those who had taken them were ignorant of the fact that fawns, so placed, are not abandoned, but hidden for the time by the doe to await her unfailing return. When brought to the farm these fawns are often but "bottle babies," and as such have been given special care.

In the herd at Raiford there is a white deer mottled with reddish brown. This was found in Levy County. Dwarfed and with a head of unusual shape, it suggests the folk tales of the phantom deer of the deep woods. Like a court jester it seems as it walks in and out or cavorts in the presence of the stately herd.

When the establishment of the game farm at Raiford was undertaken, Mr. Sidney Stringer, of Beachton, Georgia, successful manager of a quail production plant at that point, was retained in an advisory capacity. This service rendered through personal visits to the farm has been valuable.

The use of prison labor, available at Raiford, has kept down costs, while the establishment of the game farm has provided another significant program of work at the State institution.



The strong support of the undertaking given by Hon. J. S. Blitch, Superintendent of the State Farm, however, and his assistant, Capt. B. W. Brown, and the skilled supervision of Mr. T. W. Shuler, must be accredited, in the main, with the success of the project.

Sportsmen Try Pheasants

That Florida sportsmen will follow the lead of the State Department in giving the pheasant a try-out here is indicated not only by the number of requests that reached the Department when it announced that a limited number of eggs from the flock at the State Farm would be dis-

tributed during the coming season to those having suitable environment for these birds and who were prepared to hatch and attempt to rear them, but by concerted movement in Dade County for an undertaking of this nature sponsored by the Izaak League of Miami of that section and supported by the Dade County Board of Commissioners.

The League purchased twenty ringnecks for foundation stock, and have arranged for importing and hatching pheasant eggs at the County Prison Farm. These will be augmented by stock from the State Farm. A similar movement is under way in Volusia County.



Florida's Fresh-Water Fish Supply

THE vast extent of coastal waters, numerous streams in every section, more than thirty thousand lakes, provide Florida with unexcelled fishing grounds. Climatic conditions that make year 'round fishing seasonal, and a variety and abundance of fish that insures some species in season throughout the year, enhance the value of these grounds. Due to the universal love for fishing, that the pleasure from its practice is not limited by age, sex or condition, that it may be enjoyed at a minimum expense or be made a costly pastime at will, insures the popularity of the sport for many years to come—provided the supply of fish is maintained at anything like

original abundance in these waters.

Of the species in the fresh waters of the State, the bass is most highly prized by the sport fishermen—though crappie, bream, shellcrackers, jack, perch, and in some of the streams in the northern counties of the State, pike, each have their ardent pursuers; and the catfish from these waters, taken in commercial quantities, find a ready sale in the markets of the North and West.

Though fish are not as abundant as they once were, most of Florida's fresh waters yield unexcelled sport fishing. That this condition shall prevail without exception, is the objective of the fish conservation program.



GEO. V. SCHAFFNER, COLUMBUS, OHIO
ELEVEN-POUND, FOUR-OUNCE BASS

Protection During Spawning

Florida fish enjoyed during the past year protection in the southern part of the State that came as a result of high waters during the summer season. In North and West Florida a number of the counties were closed on petition of the respective Boards of County Commissioners. The counties in the Third District that will be closed to afford protection during a part of the spawning season of 1931, are Leon, March 17-May 15; Liberty and Gulf, April 2-May 31; Bay, April 1-May 30; Calhoun, April 15-May 30; Okaloosa, April 1-May 31. The counties of this District afford some of the best fishing to be found in Florida, both in lakes and streams. This protection during spawning season will go far toward maintaining and up-building it.

Florida, many years ago, recog-

nized the necessity for providing those species of fish on which the commercial fishing industry is largely based, State-wide protection during a part of the spawning season. Fish of the fresh waters, drafted as they are both for commercial and sport fishing, need similar protection.

There is abundant seedstock in the waters. Bag limits and minimum legal lengths have been observed sufficiently to improve conditions in many sections, but these safeguards are not alone sufficient if best results are to be obtained. A closed season, uniform in length, should be provided for the State.

Destruction of Predatory Fish Season

A means for the successful removal of predatory fish from these waters must be devised. Provision for their removal by the commercial fishermen, on permit to seine these waters, provided by legislation in 1929, with but few exceptions proved unsatisfactory. The law which requires the fishermen to whom permit is granted to return the game fish taken to the waters from which they seined and to remove or destroy the rough fish, has resulted profitably for the commercial fishermen, but has brought about the destruction of but few gar or other rough fish. Under the method provided, with the very few exceptions referred to, the proportionate number of rough fish have seemed to increase. One of the notable exceptions is found at Lake Griffin, near Leesburg. Here commercial fishermen paid to the local chamber of commerce a fee that was sufficient to enable the chamber to employ a supervisor for this work, who kept constant check on the bass thrown back into the lake and of the gar taken out. This plan, which has worked satisfactorily in Lake

County, may be suggestive of what might be profitably done elsewhere.

Another Plan

Another plan that might be considered would be the removal of rough fish by the State, with authorization to ship and sell non-game food fish. It is believed that the revenue from these would largely, if not entirely, meet the cost. At the same time it would provide employment for those fishermen familiar with the waters in which the work was carried on.

Winter Haven Hatchery

Another factor in maintaining the supply of fresh-water fish is that of restocking. In 1929 nearly 500,000 fingerling bass were taken from the Winter Haven Hatchery and distributed to the fresh waters of Florida. In 1930 there were 629,000 fingerlings distributed from this

hatchery. It is expected that this number will be increased in 1931 to 1,000,000 fingerlings. During the months of February and March of this year 3,500 brood bass have been placed in the Winter Haven Hatchery. This is an increase of fifty per cent. over the number used during 1930 when 2,300 were stocked. This increase in the number of brood bass, together with improvements made at the hatchery, give grounds for expecting the larger number for release in 1931. Conditions have been improved by deepening the canal between the two hatchery lakes; the supplying of a concrete intake for each lake; perfect control of waters, whether in drouth or time of rainfall, resulting; and a creation of a reserve in the canal which may be deepened to four feet, and where brood bass may be held for further use, when no longer needed in the lakes.



GAR DESTROYED—CATFISH TAKEN—ONE OF THE EXCEPTIONS

Requests for Fingerling

Requests for the 1931 season are being received at Department headquarters. The hatch will be held until of fingerling size, as a much greater per cent. of this size survive their enemies when released than would survive if released when fry. Requests will be cared for as far as it is possible to do so. Among the points that will be early stocked will be those where rearing ponds have been provided by local agencies. Such a pond was provided in

Leesburg, all of which will be utilized. Indications are that there will be others. With the newly purchased Thompson Oxygen Transportation Tank, delivery to rearing ponds and other bodies of water will be greatly facilitated. This work of restocking from the Winter Haven Hatchery has been augmented by the planting of fry from the two hatcheries under the supervision of the State Shell-Fish Commission, the one located at Welaka, on the St. Johns, the other at Lake Okeechobee.



WINTER HAVEN FISH HATCHERY

Clearwater last year through the activities of the Chamber of Commerce at that point, and stocked with 40,000 bass that were held until of large fingerling size, then released in the fresh waters of Pinellas County. This work was highly satisfactory to the State and to the co-operating agency. This pond will be stocked again. Suitable places have been prepared at Sulphur Springs, in Hillsborough County, Winter Park and

Small-Mouth and Rock Bass

In the summer of 1930, 1,500 rock bass and 1,000 small-mouth bass, both of fingerling size, obtained from a Federal hatchery, were released in the Chipola River, the Wakulla, the Wacissa, and the Suwannee—waters that it was deemed adapted to their use. The Suwannee and Santa Fee Rivers are already stocked with small-mouth bass, these having been

planted there several years ago by the Federal government. In Santa Rosa County the network of streams that flow through it to the Gulf are said to produce small-mouth bass in considerable numbers.

Record Small-Mouth Bass

To Lake Senaca, four miles from the city of Eustis, belongs the honor of producing the largest small-mouth bass which until that time had ever been taken. The established weight was 9 pounds, 13 ounces. Another fish of this same species, weighing 8 pounds and 13 ounces, has since been landed. The first taken has been mounted and is on display at the offices of the Department in Tallahassee. This fish was taken by O. W. Milton.

The first of the two taken was sent to "Field and Stream," and recorded by that publication as the largest small-mouth bass ever taken in this country up to the time of its receipt. These bass came from a planting made in the lake twenty-three years ago. I. N. Kennedy, present District Commissioner, in which territory the lake is located, assisted.

Numerous catches in all sections of the State of large-mouth black bass that tip the scales at weights that vary from ten to fifteen pounds have been reported.

Sale of Black Bass

There is a growing sentiment throughout the State for prohibiting the sale of Florida black bass. The sentiment strengthens as the economic aspect of it is recognized. Fish belong to the people of the State as a whole, and as a natural resource should be so handled as to bring to the people the largest possible returns. The fact that when placed on the market they bring no more than the lowly carp, catfish, and other food fish with which they must com-



O. W. MILTON—WITH 9-LB. 13-OZ. SMALL-MOUTH BLACK BASS

pete, but that when retained as an attraction for the tourist trade, a source of food for the home table, and of the finest of sport fishing for Florida people, they are worth many times over the price that they bring on the market, would justify prohibiting their sale. Florida is one of the eight States in the Union that permits the sale of bass.

In determining the course to be taken in the matter, a check-up on the supply of bass will be found by the sport fisherman in those fresh waters where seining for commercial purposes is permitted might be of value. Should this fish be taken from the marketable list, there would yet remain in great abundance and easily available other species to supply all demands.

Federal Fish Hatchery to be Built

This fact has been a deterrent

when it came to securing aid from the Federal government for fish propagation. Under a bill introduced in Congress by Congressman R. A. Green, of the Second District, and passed during the summer of 1930, an appropriation of \$60,000 for the building of a fish hatchery in this State, to become available in 1932 was made. All possible encouragement and co-operation should be given by the State in developing this and similar projects.

Educational Program

IN the State, in the Nation, conservation practices that fail to meet the needs of today are being discarded, and others substituted. In such transitions, knowledge of the field of activity; of the activity in related fields, of the life that will be affected by change, is essential as a safe foundation on which to base change. Not only in such knowledge important as a safeguard against error in procedure, but, given publicity, it becomes a mighty force in securing conviction on the part of the individual as to the need for, change from the old order, and on understanding and sympathy for the new. Recognizing this fact, authorization for such work was given in the law enacted in 1929.

Monthly Bulletins

The Department has supplied to the press through regular news agencies, information as to its activities. To supplement this a monthly bulletin which gives statistics of general interest to the public, arrests in each county, the offense and disposition of the case, financial status of the Department, as shown by the monthly audit; and brief editorial comments on conservation has been issued. Monthly bulletins are not only mailed to the press, but depu-

ties of the Department,—full time and honorary, county judges, chambers of commerce and interested citizens.

Quarterly

Of a more permanent nature, a quarterly magazine, Florida Woods and Waters, has been published, designed to present both to the people of this and other States the attractions of outdoor Florida, the facts of the life of the woods, that deepening appreciation may lead to its conservation. It has been given wide circulation, being placed on news stands in the State, through the Southern News Agency, a branch of the American; and by transportation companies, in bound form, on passenger boats, club and observation cars. It goes to a growing list of regular subscribers. Approximately fifty percent of the public libraries in Florida are among its subscribers. In Volusia County it has been placed by county authorities in every school library. Copies of it have been placed in the vault of the State Supreme Court where papers of historical interest are kept. A number of libraries in other States have placed it in their reserve files, and it has found its way into six foreign countries. The State, through the Department of Agriculture, has



A GLIMPSE OF THE LIFE IN THE DEEP WOODS OF FLORIDA

made wide use of it for distribution at out-of-State fairs where Florida exhibits have been placed.

Coming Publications

A manuscript has been provided by the Department on a hundred species of Florida birds, to be published in April, 1931, by the Department of Agriculture. Prepared by Rupert J. Longstreet, Superintendent of Schools in Daytona Beach; Francis M. Weston, of the U. S. Naval Air Station, located in Pensacola; R. W. Williams, and Herbert L. Stoddard, both of the U. S. Biological Survey; well illustrated with cuts and colored plates, the bulletin, it is hoped, will provide easily assessible information on Florida birds, and stimulate a study of the

same. It will be found in school libraries in sufficient numbers to be utilized by those teachers who are instructing in nature subjects. The requirement by legislative act of the teaching each week in each of the twelve grades of Florida's public schools of this and kindred subjects has created a demand for such a bulletin. Its use should greatly strengthen conservation in this State.

For long anticipated, the manuscript on Florida Birds, by A. H. Howell, senior Biologist of the U. S. Bureau of Biological Survey, representing a study of these reaching over a period of some ten or twelve years, will be published in 1931. The book will include thirty-eight colored plates from original paintings made by a well known nature artist. The financing of the publication has been arranged for by Mrs. Marcia Brady Tucker of New York, who is advancing funds for this purpose. The project will be handled jointly by the Federal Bureau and the State Department of Game and Fresh-Water Fish. These books will be made available to purchasers at cost. Its value to the work of the Department, and to those generally interested in Florida birds cannot be over-estimated.

Exhibits

THE winter season in Florida is one of outdoor festivals. It is one when fairs and pageants are at their height. While the extensive exhibits of tropical fruits and winter vegetables, as well as the fine exhibits of general farm products give a comprehensive view of what is being done in the cultivated areas of outdoor Florida, the Department of Game and Fresh-Water Fish brings to a number of these a glimpse of life in the deep woods of the State. Reaching into the forests for palms,

moss-draped trees and flowering plants, a setting is built in harmony with the habitat of wild-life in Florida. A hunter's shack, aquarium tanks and reproductions of pools and retreats furnish a place for trophies and live specimens from the life of the woods.

In the ten thousand feet of moving picture film which is used, intimate glimpses of this life pass before those who visit the improvised theatre, a feature of the exhibits.



A HUNTER'S SHACK FURNISHES A PLACE FOR TROPHIES

The wide attention which these exhibits attract attests the general interest in this life. To many the live and mounted specimens of rare birds, fish and animals, is their first glimpse of that hidden life that makes its appeal to all. These exhibits not only promote the educational work of the Department, but have established many contacts that have been valuable.

During the past season these exhibits were shown at the following points: Ocala, Largo, Winter Haven, Tampa, DeLand, Orlando, West Palm Beach and Jacksonville.

During the winter season 1931 these exhibits will be shown at Winter Haven, Tampa, DeLand and Orlando.

One special worker is employed to assist in putting on these exhibits. Financial aid in their handling is provided by the fair associations.

Moving Pictures

During the 1929-30 season the moving picture machine in the Department exhibit was operated by a field worker of the State Department of Forestry. Forestry films were shown in this exhibit also.

A further use of Department films has been by special showing made on request at schools and in communities, and by loan of these films and

hand-painted slides of Florida birds, for educational purposes.

On request material has been compiled and photographs supplied to outside interests for publicity in regard to the wild-life of the State.

During the summer months 3,000 feet of the moving picture films, owned by the Department have been shown at points in the North. The first showing was made in the municipal auditorium at Atlantic City, in connection with the Florida exhibit placed there by the State Department of Agriculture for the six weeks duration of the fair. At Michigan State Fair, Detroit; Tennessee State Fair, Nashville; Mid-South Fair, Memphis, 10,000 copies of the summer number of "Florida Woods and Waters" were used to answer those asking about outdoor Florida. And 5,000 of the fall number of the magazine was used for the same purpose at the National Dairy Show, St. Louis, Missouri, and the Louisiana State Fair, Shreveport.

Supervision of Educational Program

With the exception of the preparation of the mimeographed monthly bulletin, above referred to, which is ably handled by the Assistant Game Commissioner, the educational program, including office and field activities, is directed by the clerk in the Department.



IN HARMONY WITH THE HABITAT OF WILD LIFE IN FLORIDA

Law Enforcement

With fairness to all and favors to none, the field force of the Department has made a fearless effort to secure law enforcement. Every effort has been put forth to secure a willing obedience to law, but where violations have been knowingly committed offenders have been carried into court. Throughout the State there is a growing respect for the Game Law.

Where co-operation from sheriffs and judges has been given, results have been greatest, and such support is given in the majority of the counties. Where court action is lax, the law is lightly held and conservation difficult.

A summary of the record on court cases handled during the biennium ending June 30, 1930, follows:

Arrests, 1928-29	Sum.
Number of Arrests.....	453
Convicted	311
Dismissed	70
Bonds Estreated	3
Disposition unknown	69
	453

Arrests, 1929-30	Sum.
Number of Arrests.....	734
Convicted	522
Dismissed	140
Bonds Estreated	5
Disposition unknown.....	63
Escaped	4
	734

The difference in the number of cases handled during these two years is due in part to the fact that for several months following reorganiza-

tion in 1929, due to a lack of funds, the force in the field was but a small part of the authorized quota. The increase during the last year over any year in the history of the Department came as a result of better organization. With a full force in the field, better organization and growing co-operation on the part of the public, the calendar year of 1930 shows 961 cases carried into court. The final disposition of these is not yet known.

Co-operation

The service of the paid deputies of the Department is given active support in many counties by Honorary Deputies, public spirited citizens who without compensation give active cooperation in law enforcement, often furnishing the information on which the deputy can proceed. Such information is always held in strictest confidence.

Sportsmens organizations have given active cooperation at all times both in law enforcement and in promoting other phases of the conservation program. The Izaak Walton League, other organizations that are local and organized solely for co-operation in such work and the State Audubon Society have been especially active in such work. Such organizations and county officials co-operated financially during the time of the reorganization of the department in 1929, thereby making it possible to retain the services of deputies in their respective areas.

The Federal Bureau of Biological Survey has rendered valuable assistance through the cooperation of their deputies and other representatives.

Excerpts from Report of Congressional Committee on Wild-Life Resources in America

Of very great interest to Florida, the following excerpt, from the report of the committee appointed at the last session of Congress to investigate the wild-life resources of this Country, are offered:

"Your committee has been impressed with the fact that the wild-life problem of America has its economic value; we have a national resource in many respects answerable to the ordinary rules of investment. Disregarding, for the time, the vital but incalculable benefits to health, of wholesome amusement and recreation to Americans the committee desires at this point to present evidences dealing with cash values and the great financial importance of the investment under consideration.

"The recent census figures show that the value of sporting fire-arms sold to the public during the year 1920 amounted to \$21,970,367; the value of ammunition was \$43,779,020; the value of fishing tackle, as estimated by the Institute of Fishing Tackle Manufacturers, was \$25,000,000.

"It has been estimated that sportsmen spent in 1929 an average of \$50 apiece in equipment for shooting and fishing including their purchases of ammunition, firearms, and fishing tackle, as, well as clothing, tents canoes, and motor boats. When we take into consideration the large number of articles which enter into a day's sport, the estimate of \$50 per annum seems reasonable as an average annual figure. Even at this low figure, the amount sportsmen invest each year in this way at \$50 apiece for 13,000,000 equals \$650,000,000. If we include the cost of transportation, wear and tear on automobiles

going to and from shooting grounds, the total expenditure of the citizens of the United States in their quest for outdoor recreation in shooting and fishing alone during 1929 would doubtless amount to fully three-quarters of a billion dollars.

"These estimates concern only those values realized in the pursuit of wild birds, animals, and fishes for food and sport. By far the greater proportion of Americans who annually go afield to enjoy our wild-life resources and the associations of out-of-doors, do not either shoot game or catch fish for sport. But all of them, nevertheless, are interested in wild-life. Their numbers are annually increasing. For example, in 1929, 2,680,597 persons visited the national park areas alone and in 1930, 2,774,561 visited these same areas. The National Association of State Parks indicates that one park area in the State of New York was visited by 13,000,000 people in 1930. Park areas in Michigan were visited during the same period by 8,900,000; in Connecticut by 1,428,514; and in Indiana by 950,000. The same authority estimates that State park areas, exclusively, throughout the country were visited in 1930 by between forty and forty-five million people seeking outdoor recreation in forests, field, and stream. There are, of course, additional millions of Americans who go afield each year who do not visit established parks, therefore are not registered and their numbers can not be accurately computed. It is impossible to estimate, even approximately, the tremendous sums annually invested and spent by this vast group of recreationists who are attracted by the ennobling and in-

spirational qualities associated with all varieties of wild creatures and their environment, but when figures are compiled they will dwarf any totals so far presented in connection with the activities of fishermen and hunters.

"It is estimated that the Federal Government has in national parks an investment of \$54,634,935; in fish hatcheries \$3,500,000; in game sanctuaries between \$2,000,000 and \$4,000,000. The States own approximate forty-four and a half million acres of various types of land and water which have been set aside as bird and game sanctuaries or reserves. It is believed that the value of these lands would average about \$7 per acre. An estimated value of at least \$300,000,000 in the aggregate for all State reservations and sanctuaries would not be excessive.

"The value, therefore, of investments which the Federal and various State governments have made for the purpose of preserving or increasing wild-life comes to a total of \$507,134,935. If to this figure we add the value of private sanctuaries and shooting preserves, the grand total would undoubtedly be at least a billion dollars.

"In the direct production of food and clothing items consumed or used by Americans, estimates of the Biological Survey credit the country's wild-life supply of meat and fur each year to the value of \$150,000,000. The extent of protection by insect-destroying birds to food and other farm crops is estimated by the Department of Agriculture to be annually \$350,000,000.

"In considering the place of fish in the national food supply, it is surprising to discover that it ranks third in total quantity among meat products in the United States, as

shown by the following table of the Bureau of Fisheries:

Beef	7,458,000,000
Fish	2,500,000,000
Veal	960,000,000
Mutton and Lamb	643,000,000

This table does not include what might be termed "game fishes."

"The annual yield of our commercial fisheries exceeds 3,000,000,000 pounds, valued at \$116,000,000 to the fishermen.

"There are many other products of the fisheries put to varied uses in the arts and industries. The total value of these by-products of the fisheries is not less than \$25,000,000.

"The investigation of the wild-life resources of America, therefore, becomes not only a problem of health and recreation, but a problem of large and growing economic importance.

"Your committee finds that the total annual subscription in cash by Federal and State Governments specifically to administer this resource, to insure its maintenance, and to secure a continuation of profits from their resources probably does not exceed \$12,000,000. The value of the annual dividend to Americans, considering only the tangible assets, is many times this amount. Your committee therefore is compelled to report that it believes the primary cause for the gradual and serious decrease in our supply of wild-life to be due to the failure of Federal and State legislative bodies to be guided by the ordinary rules of sound business practice which require that the sums used for research, protection, administration, development, and upkeep must be in due proportion to the income derived from its resources.

"The enterprise of wild-life conservation and increase viewed solely as a business matter, has been grievously underfinanced and small acknowledgment or recognition has been had of its value in dollars to the people of our Commonwealths.

"If there is no game for the hunter, no fish for the fisherman, no wild-life in the recreational playgrounds for tourists, these occupations and recreations will perish.

"While the private individual may

assist in (and, when organized into clubs and associations, very largely supplement) the work of the State and Nation, the very character of game and fish preservation depends upon State and National legislation and administration.

"The matter of hunting and fishing and outdoor recreation is naturally related to that of the preservation of insectivorous birds and birds of song and plumage, and for reforestation and all other natural resources similar in character."

Legislative Recommendations

Because of the growing outdoor-mindedness of the people of this and other States, increasing the number of those who hunt and fish, and of those modern practices in hunting and fishing that bring surer results to the individual sportsman, but often make inroads upon the reserve supply of wild-life; Florida needs to strengthen the guards about the reserve. To this end the following recommendations for legislative action are made:

1. Prohibit the sale, and the transportation out of the State for sale, of black bass from all waters of the State.
2. Prohibit the carrying of guns in the woods during the closed season, and in State Game Breeding Grounds at all times, except under permit, with a provision whereby persons may carry guns on their own property for protection of live stock, etc.
3. Reduce the open season on deer and turkey to thirty days.
4. Prohibit the killing of hen turkeys.
5. Requirement of State-wide license fee of \$1.00 for residents to fish in the fresh waters of the State.
6. Authority to employ a sufficient number of wardens not to exceed seventy, but not more than funds will permit.
7. State-wide closed season on all fresh-water fish during the months of March and April, with a provision whereby the County Commissioners of any County may designate a closed season of same duration at any other time of the year more suitable to local conditions.
8. The bag limit on turkey to be reduced to one per day, three persons.
9. Bag limit on quail to be reduced to twelve per day.
10. The possession limit of all game to be reduced to one day's bag limit.

11. The season on all game and fur-bearing animals to close not later than January 31st.
12. Season on fur-bearing animals to be months of December and January.
13. A minimum fine of \$100.00 or a sentence of sixty days, for fire-hunting and dynamiting.
14. All persons convicted for violations of the game and fish laws to be made ineligible for hunting and fishing licenses for a period of one year.

Conclusion

Blessed in the original endowment of wild-life, in the environment in which it was placed, and in the fact that a sufficient seedstock remains to restore it, under adequate protection, to a large measure of its orig-

inal abundance, Florida needs to crystallize the growing interest in the conservation of this resource, into action that will bring this desired end, and that without delay.

Finances

The Department of Game and Fresh-Water Fish is given no legislative appropriation. Supported financially by revenue derived from the sale of various licenses to those who derive pleasure or profit from that, the native wild-life of the State, and a very small sum from a propor-

tion of court costs from cases which the Department handles, funds vary from year to year.

The following statement gives a summary of all moneys collected and disbursed by the Department during the biennium:

EXPENDITURES

	1928-29	1929-30	
Administrative Salaries { 1928-29 Commissioner { 1929-30 Commissioner and Assistant }	\$ 6,444.45	\$ 7,400.04	
Administrative Expense.....	2,486.83	1,882.10	
Office Salaries	12,855.94	6,510.00	
Office Expense (Printing—Supplies, etc.).....	5,803.79	8,291.95	
Office Equipment	1,277.24	308.50	
Field Men's Salaries	103,966.99	57,541.93	
Field Men's Expenses	65,920.93	41,775.81	
Field Equipment	4,315.86	925.00	
Field Equipment Maintenance	745.51	784.89	
Restocking Game (Includes Purchase of Game; Printing Signs and Posting Breeding Grounds)....	1,527.94	2,882.73	
Restocking Fish (Includes Purchase of Fish; Printing Signs and Posting Closed Waters).....	4,433.28	281.82	
Construction Work on Fish Hatchery.....	15,492.29	1,173.79	
Operation, Equipment and Cost Distribution Fish from Hatchery.....	4,351.82	11,521.61	
Educational and Fair Exhibits	3,479.10	3,392.71	
Remitted to School Fund as of Act 1927.....	8,152.00	850.00	
Miscellaneous Expenditures	6,693.01		
Current Expenditures	\$247,964.98	\$145,523.33	
Back Pay Paid Employees of Previous Administration.....		23,797.90	
Repayment to General Inspection Fund.....	20,000.00	10,000.00	
TOTAL	\$267,964.98	\$179,321.23	
TOTAL RECEIPTS	\$283,447.67		\$251,050.56
TOTAL DISBURSEMENTS	267,964.98		179,321.23
Balance on Hand Close Fiscal Year (June 30th)	\$ 15,482.69		\$ 71,729.33

RECEIPTS

	1928-1929			1929-1930		
Received from County Judges—Sale of Hunting, Fishing and Trapping Licenses.....		\$254,605.81		\$ 128.00	\$187,471.50	
Less Checks on closed Banks—Brevard County.....	\$1,600.00					
Less Checks on closed Banks—Citrus County.....	871.00					
Less Refunds on over Remittances.....	35.50	2,506.50	\$252,099.31	25.00	153.00	\$187,318.50
Non-resident Retail Fish Dealers' Licenses.....	50.00					
Resident Retail Fish Dealers' Licenses.....	3,095.00			4,290.00		
Resident Wholesale Fish Dealers' Licenses.....	1,500.00			1,900.00		
Deposit on Wholesale Fish Dealers' Licenses (not issued).....				25.00		
Guide Licenses.....	220.00			220.00		
Bait Net (Repealed 1929 Act).....	55.00					
Game Farm (Act 1929).....				55.00		
Resident Commercial Fish Boat Licenses.....	569.60			611.00		
Non-resident Commercial Fish Boat Licenses.....	10.00					
Boats for Hire Licenses.....	2,214.00			2,017.00		
Non-resident Fur Dealers' Licenses.....	100.00					
Non-resident Wholesale Fur Dealers' Licenses.....				2,000.00		
Non-resident Wholesale Fur Agents' Licenses.....				400.00		
Non-resident Local Fur Dealers' Licenses.....	1,430.00			700.00		
Alien Hunting Licenses.....	100.00	9,343.60		200.00	12,424.00	
Less Amount Collected by Wardens on above Licenses and not remitted for at close of Fiscal Year.....	69.50					
Less Amount Deposited Prior to July 1st, 1928, on Licenses to be issued July 1st, 1929.....	45.50	115.00	9,228.60		927.70	11,490.30
Court Costs (Wardens' Mileage and Arresting Fees).....			2,221.14			2,398.28
Interest from Banks on Deposits.....			182.37			561.28
Miscellaneous Collections—(Refunds in Stamps, Sale of Confiscated Furs, etc.).....			575.90			799.51
Dividends on Checks on closed Banks.....			142.40			
Deposited on Commercial Licenses to be Issued after July 1st, 1929.....			927.70			
Estreated Bond.....						10,000.00
Total Receipts Fiscal Year.....			\$265,377.42			\$212,567.87
Balances with Banks and State Treasurer beginning Fiscal Year.....			18,070.25			15,482.69
Borrowed from General Inspection Fund to Pay Back-Pay—Due Employees former Administration.....						23,000.00
TOTALS			\$283,447.67			\$251,050.56

